First Public Workshop

Novel Tools for Novel Aircraft

eVTOLUTION

6th February 2025 - GKN Aerospace
The Global Technology Centre (Taurus Road, Patchway, Bristol, UK) *And Online*

PROGRAMME

09:00 *Welcome Address*

09:10 Overview of the eVTOLUTION project
Christophe Schram (VKI)

09:30 Dynamic Surrogate Modelling Enhanced by Artificial Intelligence and Machine Learning Techniques in Aerodynamics and Aeroacoustics
Lorenzo Burghignoli (Uniroma 3)

09:50 Qualification of the Vortex Particle Method for Multi-Rotor Configurations
Tobias Lade (DLR)

10:10 *Coffee break*

10:30 Reference aircraft and sizing process
Davide Ferretto (POLITO) & Craig Mead (Vertical Aerospace)

10:50 Noise certification and regulation for eVTOL operation
Shubham Shubham (GKN Aerospace) &
Nikita Dhiman & Yannick Chance (TU Delft)

11:10 Aerodynamics and Aeroacoustics of Coaxial Co rotating Propellers
Andrea Beni (VKI)

11:30 Aeroacoustics of tandem propellers under different operating conditions
Chris Yi (U. Bristol)

11:50 Cluster project intro: Sci-fi-Turbo
Georgios Goinis (DLR)

12:10 Round table discussion

12:30 *Lunch break*

13:30 Visit of the GKN factory

Register here by 27/01/2025

ABOUT THE eVTOLUTION PROJECT

eVTOLUTION (eVTOL mUlti-fideliTy hybrid design and Optimization for low-Noise and high aerodynamic performance) is a groundbreaking four-year project focused on advancing the design and optimization of electric Vertical Takeoff and Landing (eVTOL) aircraft. Our goal is to develop the essential knowledge, data, tools, and methods necessary to understand and improve the aerodynamic performance and noise emissions of these next-generation aircraft. With a particular emphasis on propulsion-airframe interactions, we aim to enhance both aeropropulsive efficiency and minimize noise. The project will also explore critical areas such as energy management, cooling systems, regulatory compliance, sound quality, psycho-acoustic impact, and certification. This workshop provides a unique opportunity to learn about the project and its first outcomes.

For more information: https://evtolution.eu/

This project has received funding from the European Union's Horizon Europe programme under grant agreement No 101138209.

UK Research and Innovation

The University of Bristol, GKN Aerospace and Vertical Aerospace have been funded by UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding guarantee [grant numbers 10102278, 10120125 and 10111807].